

I. Listing of Claims

Please amend the Claims as follows:

1. (Currently Amended) A retractor for a seat belt system for a vehicle comprising:

a spindle on which a webbing is wound;

a frame for pivotally holding the spindle;

a spindle locking system means ~~for preventing the webbing from drawing out and~~ for stopping rotation of the spindle rotating in a webbing drawing out direction when a rotational acceleration of the spindle is greater than a first predetermined value when the webbing is accelerated in the drawing out direction; and

the spindle locking system means further being configured to stop ~~for stopping~~ rotation of the spindle rotating in the drawing out direction when a deceleration of the vehicle is greater than a second predetermined value;

~~a first torque generating system winding spring~~ which generates a spring torque to rotate the spindle in a winding direction in which the webbing is wound onto the spindle, ~~the first torque generating system winding spring~~ being connected to the spindle at all times so as to transmit the generated spring torque to the spindle[.];

~~a second torque generating system motor~~ which generates a motor torque to rotate the spindle in the winding direction; and

a torque transmitting mechanism system which transmits the motor torque ~~generated by the second torque generating system to the spindle,~~

a control system for controlling the torque generated by the ~~second torque generating system motor~~ according to a seat belt fastening state and a dangerous state,

the seat belt fastening state being one of a fastened seat belt state and a non-fastened seat belt state;

a seat belt fastening state detecting system incorporated into a buckle, the seat belt fastening detection system being operable to detect the seat belt fastening state based on whether or not a tongue is engaged with the buckle; and

a dangerous state detecting system for detecting whether or not the vehicle is in the dangerous state,

wherein the ~~second torque generating system~~ motor is used repeatedly, and the ~~spring torque generated by the first torque generating system is configured to be lower than the torque generated by the second torque generating system when each are correspondingly transmitted to the spindle, the first torque generating system generating~~ a to maintain a lower rotary speed of the spindle than the second torque generating system motor torque,

~~wherein the torque generated by the second torque generating system is generated during controlling by the control system, and control system is configured to compare an actual amount of drawing of the webbing with a predetermined amount of drawing of the webbing, the predetermined amount being less than an amount of drawing of the webbing necessary for restricting a passenger seated in the seat, the control system further being configured to control the motor by pulse-width modulation to control the drawing speed of the motor when the actual amount of drawing of the webbing is less than the predetermined amount; the torque generated by the first torque generating system is capable of restricting the passenger seated in a seat, but incapable of completely winding up the webbing.~~

2. (Currently Amended) The retractor for the seat belt according to claim 1, wherein the ~~first torque generating system generates torque by a rotary spring force of winding spring is~~ a spiral spring, and ~~the second torque generating system generates torque by torque of an electric motor.~~

3. (Currently Amended) The retractor for the seat belt according to claim 1, wherein when the ~~second torque generating system motor~~ generates the motor torque for rotating the spindle in the winding direction, the torque transmitting mechanism system transmits the motor torque ~~generated by the second torque generating system~~ to the spindle, and

when the ~~second torque generating system motor~~ generates a second torque for rotating the spindle in the drawing out direction, the torque transmitting mechanism system does not transmit the second torque ~~generated by the second torque generating system~~ to the spindle.

4. (Currently Amended) The retractor for the seat belt according to claim 1, wherein the ~~first torque generating system winding spring~~ has a preset spring torque setting so that a predetermined tension is generated in the webbing when a seat belt user fastens the seat belt.

5. (Currently Amended) The retractor for the seat belt according to claim 1, wherein the torque transmitting mechanism system includes a torque transmission cushioning system for cushioning a torque transmission by an elastic member arranged between the ~~second torque generating system~~ motor and the spindle, wherein when the motor torque of the ~~second torque generating system~~ is transmitted to the spindle, a sudden change in the motor torque of the ~~second torque generating system~~ is not transmitted to the spindle as a sudden change in torque, and wherein when the motor torque of the ~~second torque generating system~~ is transmitted to the spindle, a sudden force given to the spindle in the drawing out direction is not transmitted to the ~~second torque generating system~~ motor as a sudden change in force.

6. (Currently Amended) The retractor for the seat belt according to claim 5, wherein an elastic force of the elastic member in the power transmission cushioning system is larger than the force generated by the ~~first torque generating system~~ winding spring when the elastic member is substantially compressed.

7. (Currently Amended) A retractor for a seat belt system for a vehicle comprising:

a spindle on which a webbing is wound;

a frame for pivotally holding the spindle;

a spindle locking system means for preventing the webbing from drawing out and for stopping rotation of the spindle rotating in a webbing drawing out direction when a

rotational acceleration of the spindle is greater than a first predetermined value when the webbing is accelerated in the drawing out direction; and

the spindle locking system means further for stopping rotation of the spindle rotating in the drawing out direction when a deceleration of the vehicle is greater than a second predetermined value;

~~a first torque generating system~~ winding spring which generates a spring torque to rotate the spindle in a winding direction in which the webbing is wound, the ~~first torque generating system~~ winding spring being connected to the spindle at all times so as to transmit the generated spring torque to the spindle at all times[,];

~~a second torque generating system~~ motor which generates a motor torque to rotate the spindle in the winding direction; and

a torque transmitting mechanism system which transmits the motor torque ~~generated by the second torque generating system~~ to the spindle;

a webbing action detecting system for detecting a webbing action, the webbing action being one of a webbing drawing out state, a webbing winding state, and a webbing stoppage state;

a control system for controlling the motor torque ~~of the second torque generating system~~ according to a seat belt fastening state and the webbing action detected by the webbing action detecting system, the seat belt fastening state being one of a fastened seat belt state and a non-fastened seat belt state; and

a seat belt fastening detection system integrated into a buckle, the seat belt fastening detection system being operable to detect the seat belt fastening state based on whether or not a tongue is engaged with the buckle,

wherein the ~~second torque generating system~~ motor is used repeatedly, and the spring torque generated by the first torque generating system is configured to be lower than the torque generated by the ~~second torque generating system~~ when each are correspondingly transmitted to the spindle, the first torque generating system generating a to maintain a lower rotary speed of the spindle than the ~~second torque generating system~~ motor torque,

wherein the control system is configured to compare an actual amount of drawing of the webbing with a predetermined amount of drawing of the webbing, the predetermined amount being less than an amount of drawing of the webbing necessary for restricting a passenger seated in the seat, the control system further being configured to control the motor by pulse-width modulation to control the drawing speed of the motor when the actual amount of drawing of the webbing is less than the predetermined amount; wherein ~~torque generated by the second torque generating system is generated during controlling by the control system, and the~~ spring torque generated by the first torque generating system is capable of restricting the passenger seated in a seat, ~~but incapable of completely winding up the webbing.~~

8. (Currently Amended) The retractor for the seat belt according to claim 7, wherein when the seat belt fastening detecting system detects a change from the fastened seat belt state to the non-fastened seat belt state, and the webbing action detecting system further detects that the webbing is in the webbing stoppage state, the control system makes the ~~second torque generating system~~ motor generate a

predetermined intensity of the motor torque for rotating the spindle in the winding direction.

9. (Currently Amended) The retractor for the seat belt according to claim 7, wherein when the non-fastened seat belt state, the webbing drawing out state, and the webbing stoppage state are detected, the control system makes the ~~second-torque generating-system~~ motor generate a predetermined intensity of the motor torque for rotating the spindle in the winding direction.

10. (Currently Amended) The retractor for the seat belt according to claim 7, wherein when the non-fastened seat belt state and a webbing stoppage state are detected, and when the ~~second-torque generating-system~~ motor is generating ~~the motor~~ torque for rotating the spindle in the winding direction,

the control system stops the generation of the motor torque ~~by the second-torque generating-system~~ for a predetermined period of time, and then the control system controls the ~~second-torque generating-system~~ motor to generate the torque a second torque in the drawing direction.

11. (Currently Amended) The retractor for the seat belt according to claim 7, wherein when a change from the non-fastened seatbelt state to the fastened seat belt state is detected, the control system makes the ~~second-torque generating-system~~ motor generate the motor torque for rotating the spindle in the winding direction, and

when the webbing stoppage state is detected, the control system makes the second torque generating system motor generate a second torque to rotate the spindle in the drawing out direction for a predetermined period of time.

12. (Previously Presented) The retractor for the seat belt according to claim 7, wherein the webbing action detecting system detects the webbing action by detecting a rotary speed and a rotary direction of the spindle,

wherein when the webbing action detection system detects a predetermined increase in the rotary speed of the spindle in a predetermined period of time, the webbing action detection system determines that the webbing is in the webbing drawing out state if the webbing action detection system further detects that the rotary direction of the spindle corresponds to the drawing out direction, and the webbing action detecting system determines that the webbing is in the webbing winding state if the webbing action detection system further detects that the rotary direction of the spindle corresponds to the winding direction, and

wherein the webbing action detection system determines that the webbing is in the webbing stoppage state when the webbing is not in either the webbing drawing out state or the webbing winding state.

13. (Currently Amended) The retractor for the seat belt according to claim 7, further comprising:

a dangerous state detecting system for detecting whether or not a vehicle is in a dangerous state, the dangerous state being one of an actual or potential collision,

wherein when the dangerous state detecting system detects the dangerous state and the seat belt fastening detection system detects a fastened seat belt state, the control system makes the ~~second torque generating system~~ motor generate the motor torque for rotating the spindle in the winding direction.

14. (Currently Amended) The retractor for the seat belt according to claim 13, wherein when a change from the dangerous state of the vehicle to a not-dangerous state is detected, the control system makes the ~~second torque generating system~~ motor generate the motor torque for rotating the spindle in the winding direction for a predetermined period of time and at a level higher than a predetermined level of torque required for rotating the spindle, and

wherein the control system further makes the ~~second torque generating system~~ motor gradually reduce the motor torque with lapse of time, such that when the ~~second torque generating mechanism~~ motor stops generating the torque, the control system makes the ~~second torque generating mechanism~~ motor generate a predetermined intensity of a second torque for rotating the spindle in the drawing out direction for a predetermined period of time.

15. (Canceled)

16. (Currently Amended) The retractor for the seat belt according to claim 1, wherein when the fastened seat belt state and the dangerous state of the vehicle are

detected, the control system makes the ~~second torque generating system~~ motor generate the motor torque for rotating the spindle in the winding direction.

17. (Currently Amended) The retractor for the seat belt according to claim 1, wherein when the fastened seat belt state and a change from the dangerous state of the vehicle to a not-dangerous state are detected, the control system makes the ~~second torque generating system~~ motor generate the motor torque at a level for rotating the spindle in the winding direction for a predetermined period of time; and

wherein the control system further makes the ~~second torque generating system~~ motor gradually reduce the torque with lapse of time, such that when the ~~second torque generating mechanism~~ motor stops generating the torque, the control system makes the ~~second torque generating system~~ motor generate a predetermined second torque for rotating the spindle in the drawing out direction for a predetermined period of time.

18. (Currently Amended) The retractor for the seat belt according to claim 13, wherein when the dangerous state of the vehicle and a change from the fastened seat belt state to the non-fastened seat belt state are detected, the control system makes the ~~second torque generating system~~ motor generate a predetermined second torque for rotating the spindle in the drawing out direction for a predetermined period of time.

19. (Currently Amended) The retractor for the seat belt as set forth in claim 8, wherein the control system makes the ~~second torque generating system~~ motor generate

the motor torque at a level greater than a predetermined level of torque required for rotating the spindle in the winding direction.

20. (Currently Amended) The retractor for the seat belt according to claim 3, wherein when the control system makes the ~~second torque generating system~~ motor generate a ~~rotary~~ second torque in the drawing out direction, and when the webbing detecting system detects that an amount of webbing being drawn is greater than a third predetermined value, the control system makes the ~~second torque generating system~~ motor increase a rotary speed.

21. (Previously Presented) The retractor for the seatbelt according to claim 7, wherein the webbing action detecting system detects the webbing action by detecting a rotary speed and a rotary direction of the spindle.